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ABSTRACT

To discover whether increased exposure to and understanding of figurative uses of language would result in improved performance on a metaphorical language comprehension test, gains were measured on a figurative language test that was administered twice, approximately four months apart, to a total of 319 elementary school children in Harlem, New York. Specifically, the study examined children's exposure to and participation in the creative, verbal street game called "sounding" or "playing the dozens," and it studied the effects of a program of creative writing instruction provided by visiting writers. The results indicated that the special instruction tended to improve the figurative language comprehension of the children. Also, those children who frequently engaged in sounding comprehended figurative language better than those who did not. This latter effect could not be accounted for by differences in general language ability. It was concluded that the use of figurative language in sounding did enhance black school children's ability to understand the more literary uses of metaphor and simile encountered in the classroom. (HOD)

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Technical Report No. 335

CULTURAL AND INSTRUCTIONAL INFLUENCES ON FIGURATIVE LANGUAGE COMPREHENSION BY INNER CITY CHILDREN

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Abstract

This study examined cultural and instructional influences on the comprehension of figurative language by elementary school children in Harlem, New York. Specifically, it examined children's exposure to and participation in the creative, verbal street game called "sounding" or "playing the dozens," and it studied the effects of a program of creative writing instruction provided by visiting writers. The results indicate that the special instruction tended to improve the figurative language comprehension of the children. Also, those children who frequently engaged in sounding comprehended figurative language better than those who did not. This latter effect could not be accounted for by differences in general language ability. The results are taken as support for a "language experience" view of the development of figurative language comprehension in preference to any strong form of a "cognitive constraints" view.

Cultural and Instructional Influences on Figurative Language Comprehension by Inner City Children

In recent years psychologists have begun to study seriously the development of the comprehension of figurative, especially metaphorical, uses of language in children. What seems to have emerged from these efforts are two fundamentally different kinds of view. One, which might be called the "cognitive constraints view," is that the ability to properly understand metaphorical uses of language is primarily constrained by the child's level of cognitive development. Proponents of this view generally agree that genuine metaphor comprehension does not emerge until early adolescence and that metaphor comprehension progresses to maturity through a series of developmentally determined stages. Views of this kind are particularly prevalent among those taking a Piagetian perspective on cognitive development (e.g., Billow, 1975; Cometa & Eson, 1978), but they are held (at least implicitly) by others too (e.g., Asch & Nerlove, 1960; Winner, Rosenstiel & Gardner, 1976). The alternative view, which might be called the "language experience view," is that a child's ability to understand metaphorical language is primarily dependent on the extent to which the child has had exposure to such language. According to this view, cognitive constraints are only relevant through their effects on the child's general language abilities (e.g., Reynolds & Ortony, 1980; Vosniadou, Ortony, Reynolds & Wilson, in press).

The two views of the development of metaphor comprehension make different predictions about the effects of exposure to figurative language on children's comprehension abilities. The cognitive constraints view predicts that exposure, be it formal or informal, is not likely to result in any improvement in performance until and unless the requisite cognitive mechanisms are already independently in place. The language experience view, on the other hand, predicts that relevant experience is likely to improve performance. The present study examined these positions with respect both to informal and relatively formal exposure to figurative language. Subjects in the experiment were children drawn from grades 4, 5, and 6 in three schools in Harlem, New York. A characteristic of such predominantly Black, inner city populations is that incidental exposure to figurative language tends to be widespread. This is because of the prevalence of a form of of aggressive verbal play that Labov (1972) calls ritual insult. The following is an example of the kind of verbal exchange to which we refer:

> Larry: Man, you so poor your roaches and rats eat lunch out!
> Reggie: Man, you so poor the rats and roaches take you out to lunch!

The term used to describe such exchanges varies from place to place, but common terms include "playing the dozens," "sounding," "smashing," and "cracking." Henceforth, we will use the term sounding to refer to this somewhat taboo form of linguistic interchange. It is characteristic of sounding that the exchanged insults involve gross exaggeration, and that the insults cannot be interpreted as being literally true. Thus, sounding typically

involves flights of figurative language, with the use of devices such as hyperbole, irony and metaphor. In fact, Black English in general gives much more prominence to nonliteralness than does standard White English. In the Black community, the rhetorical style of preaching, common proverbs and sayings, idioms, folktales, signifying, marking, and sounding all make frequent use of figurative language (Mitchell-Kernan, 1972; Smitherman, 1977; Taylor & Ortony, 1980).

Of the many forms of figurative language used in Black English, sounding has special significance both because it is a form frequently encountered by children of school age, and because it is a form in which the participants take an active role in producing the figurative language. Skill in sounding is, moreover, a high status skill among pre-adolescent and adolescent Blacks. Thus, if the language experience view of figurative language comprehension is correct, one would expect that participation in the street game of sounding could have an impact on the ease with which Black children can understand figurative uses of language. This hypothesis predicts a correlation between familiarity with sounding and scores on a figurative language comprehension test. The present study examined the relationship between these two variables. Also investigated were the effects of exposing these children to more formal uses of figurative language. To this end, gains were measured on scores on a figurative language test administered approximately four months apart. The gains achieved by the students receiving the normal

reading and language arts curriculum were compared with those of the students receiving additional instruction in creative writing which emphasized figurative language use. Again, if the language experience view is correct, any increase in the child's exposure to and awareness of figurative uses of language through instruction could be expected to result in improvements in figurative language comprehension.

Method

The research was conducted in collaboration with Teachers and Writers Collaborative, a New York based non-profit organization that supports "residencies" for visiting artists (playwrights, poets, novelists, musicians, dancers, etc.) in New York City schools. Three Harlem schools having a history of collaboration with Teachers and Writers Collaborative agreed to participate in the project. The experimenters discussed the nature of the project with a number of Black writers from Teachers and Writers Collaborative. Three of these writers were selected for residencies. The selection was made on the basis of the writers' interest and confidence in the project. Each writer was then assigned to one of the schools for an entire semester. The residencies were supported exclusively by the project. The writers worked with a total of 13 classes, each of which met once a week. One of the writers worked with three classes (two fourth grade and one fifth grade), and the other two with five classes each (in one case, two fourth, one fifth, and two sixth grade classes, and in the other case, one fourth, one fifth, and three

sixth grade classes). Across schools, a total of 319 children participated in the project. Eight of the 13 classes (four fourth grade, one fifth grade, and three sixth grade) were designated as experimental classes (a total of 217 children) and the rest (one fourth grade, two fifth grade, and two sixth grade) were designated as control classes. Of the 319 children participating in the study, 92% were Black, and 8% were Hispanic. Because of variability in time of testing and the tests used, only an approximate estimate of the level of reading achievement of the children can be given. However, recent scores were available for about two thirds of the children (in most cases, scores on the New York Reading Test). These revealed that on average the children were reading at about grade level.

After a "getting acquainted" session with their classes, the writers administered a metaphorical language comprehension test (pretest) and a questionnaire designed to determine the children's degree of familiarity with and exposure to sounding. The questionnaire and tests were administered to all children, both experimental and control. Then, over a four month period, the writers had an average of 13 one hour weekly meetings with each of the experimental classes. At the end of this period they again administered the metaphorical language comprehension test (posttest) and the questionnaire to both the experimental and the control classes. Finally, after the data from the experiment had been collected, the writers had a number of meetings with the control classes so as to give children in those classes a chance

to benefit from their involvement in the project.

It should be clear from this description of the general procedure that the real-world constraints of school timetables and writer availability did not permit this study to be designed with the degree of control characteristic of a laboratory experiment. For example, for practical reasons, it was not possible to avoid confounding the school variable with the teacher variable, and it was not possible, again for practical reasons, to have each school provide an equal number of experimental and control classrooms at each of the three grade levels. Control of this kind would have required the project to take place on a much larger scale. This was neither economically nor administratively feasible, nor was it scientifically necessary for an exploratory study of the kind we were undertaking.

For both practical and theoretical reasons, the writers were given considerable license in deciding exactly what to do during their instructional sessions. Since our main goal was to discover whether increased exposure to and understanding of figurative uses of language would result in improved performance on the metaphorical language comprehension test, it was important not to overly constrain the means whereby this increase in exposure and understanding might be achieved. Thus, variation in teaching style across instructors was an essential aspect of the design of the project. This variation occurred, however, within constraints concerning the degree of emphasis to be placed on

figurative language. The primary aim of each instructor was to develop in the children a knowledge of figurative language, and a capacity to use it in written form. The writers thus stressed devices such as simile, onomatopoeia, metaphor, alliteration, and hyperbole, not with a view to teaching the children the definitions of these terms, but with a view to inculcating an understanding of their nature and effects. Each writer discussed either metaphor or simile explicitly in more than half of his/her 13 sessions. In all cases the instruction was conducted in the normal classroom environment, with time variously divided between whole-class instruction and small-group activities.

Within these general constraints, the particular way in which figurative language was introduced and taught was left up to each writer to decide. Poetry in all its diverse forms, including list poems, prose poems, and rhyming poems, was a major focus of all the writers. The writers often introduced a discussion of figurative language by focussing on a poem and then attempting to develop in the children an understanding of how the ideas in the poem were embodied in metaphors and similes. A wide variety of poets and their works were used in this way, including poems by William Carlos Williams, Arthur Rimbaud, Sonia Sanchez, and Siv Cedering Fox. The children thus had extensive exposure to rich and compelling uses of figurative language.

The writers also placed a strong emphasis on the children's own writing activities, encouraging them to express freely their own feelings and perceptions on topics that were related directly

to their lives, and to do so in a way that made use of the devices of figurative language. One writer, for example, when introducing similes, asked students to write a poem describing Harlem. The poem was to begin with the words "Harlem is like ..." An examination of the written work produced by the students reveals frequent use of figurative language. For example, the poems that the children produced towards the end of the instruction included lines such as: "spring is a game for boys and girls," "my dog is like a barking stick," "hunger punched me in the stomach when I would not eat," and "dreams are like kites that fly through the air."

The test used to assess figurative language comprehension in the study was based on previous research by Ortony and his colleagues (e.g., Reynolds & Ortony, 1980). The test presents ten short stories and four alternative completions of each story. Each alternative is a metaphoric comparison but only one of the four makes sense in the context of the story. An example of an item in the test is:

> Tom's old ball glove was ruined. One of his friends had borrowed it and left it out in the rain. Tom's Dad knew how much Tom liked to play ball, so he got him a new glove. He told Tom to take better care of this new glove. If this one got spoiled, he wouldn't get Tom another one. Tom decided not to let his friends even see his new glove.
>
> (1) Tom was (like) a kitten playing with a ball of string.
> (2) Tom was (like) a referee blowing the whistle.
> (3) Tom was (like) a dog burying a bone in the backyard.
> (4) Tom was (like) a batter missing an easy pitch.

The children were required to select whichever of the four continuation sentences they thought made the best sense. In the

example, the best continuation sentence is alternative (3). There are two forms of each test item: one which uses metaphors in the continuation sentences and one which uses similes. The simile and metaphor forms of the test items are the same except that a "like" is inserted in each of the continuation sentences of the simile form. This study used both forms of the test items.

In addition to the test of figurative language comprehension, each student completed a lengthy questionnaire designed to tap his or her familiarity with sounding. The questionnaire attempted to determine the frequency with which the student heard others sounding, and the frequency with which the student participated in sounding.

Results

Instructional Effects

Table 1 shows the mean scores on the test of figurative language comprehension for the 277 children for whom complete data were available. The data were analyzed using a repeated measures analysis of variance, with three between-subjects factors and one within-subjects factor. The between-subjects factors were grade (4, 5, or 6), test (of similes or metaphors), and group (experimental or control). The within-subject factor was time of test (pretest or posttest).

Insert Table 1 about here.

There was no significant difference between comprehension of similes and of metaphors. Because this factor also did not interact with any other variables, Table 1 presents the results collapsed across this factor.

When the effect of the treatment (creative writing instruction) was examined, it was found that the children in the experimental group outperformed those in the control group on both the pretest and the posttest, $F(1,269) = 5.44$, $p < 0.05$. However, treatment interacted with grade level, $F(2,269) = 4.65$, $p < 0.05$. Table 1 shows that in fourth grade, the children in the experimental group displayed better figurative language comprehension than did those in the control group, whereas the

relative positions were reversed in sixth grade.

Children in the experimental group increased their figurative language comprehension by eight percent, from 60% at pretest to 68% at posttest. In contrast, the children in the control group only increased their score by half this amount. However, the analysis of variance showed that this tendency for students given the special instruction to improve more between pretest and posttest was only marginally significant, $F(1,269) = 3.28$, $p < 0.08$.

Figurative language comprehension improved with grade level, $F(2,269) = 23.44$, $p < 0.01$. The fourth grade children understood 51% of the figurative language expressions, and this increased to 66% among the sixth grade children.

Previous research has shown that while children below about fifth grade understand similes much more readily than they do metaphors, there is little difference in the comprehension of similes and metaphors after fifth grade (Reynolds & Ortony, 1980). While the analysis of variance did not reveal a significant interaction between grade level and type of test in the present data, the expected trend was present. The pretest scores for the fourth grade children showed a mean performance level of about 48% correct for metaphors as opposed to 58% for similes, while by fifth grade the average level of performance was about 60% for both.

Cultural Effects

One of the major goals of the study was to examine the effect of exposure to sounding on the Black child's comprehension of figurative language. It was thought that children who were more exposed to (the extensive use of figurative language in) sounding might perform better on measures of school-oriented figurative language comprehension. In order to assess this relationship between exposure to sounding and ease of comprehension of figurative language, the childrens' reports of their frequency of encounter with sounding and of their own use of sounding were correlated with scores on the test of figurative language comprehension.

The students' reports of their own use of sounding correlated 0.30 with their figurative language comprehension, indicating that children who more often engage in sounding are better able to understand metaphors and similes. Reports of exposure to (as opposed to own use of) sounding, as measured by estimates of frequency of encounter with other people sounding, also correlated significantly, although less strongly (0.14), with figurative language comprehension.

Discussion

The results of this study are straightforward. Children who received creative writing instruction that emphasized the use of figurative language tended to improve more in the comprehension of such language. The effect, however, was only marginally

significant. The study also revealed that the children who more frequently played the ritualized verbal game of sounding understood figurative language better than those who engaged in it less often.

There are several possible explanations for the absence of a stronger effect of creative writing instruction on figurative language comprehension. The first explanation is that the instruction simply did not substantially improve the figurative language comprehension of the children, over and above the increase that occurred through the normal curriculum and maturation. This explanation does not imply that the sessions were educationally ineffective, since the instruction may have had other beneficial effects, such as an improvement in the children's ability to produce figurative language to good effect. However, there was no attempt in this study to measure possible gains of this kind.

Another possibility is that while the instruction did have an effect, there was too little of it spread out over too long a period of time for the gains to be statistically significant. Certainly, this is compatible with evidence of a trend in the expected direction.

A third way in which these results could be explained is in terms of the problems associated with real world research. Research in the laboratory enables a high degree of control of extraneous variables, but the results often do not generalize well to the real world. Real world research does not allow such

fineness of control, but can have clear implications for the real world. In the present case, it was not possible to randomly allocate children to the experimental and control groups, and so these groups started out from a different baseline in figurative language comprehension, with the experimental group generally outperforming the control group at pretest. Children in the experimental group were, however, poorer readers and younger than children in the control group. These differences could not be fully compensated for in the statistical analyses and may account for the relatively weak effect of the intervention.

Finally, differences among the visiting writers and the schools may have obscured any overall impact of instruction on figurative language comprehension. This seems a likely explanation because when the data are examined school by school (i.e., by writer), it becomes clear that there are large and systematic differences in impact. At one school, the gain between pretest and posttest (pooled across classes and grades) was a substantial 33%. This gain was nearly three times that of the control group. At a second school, the gain of the experimental group was almost two and a half times that of the control group. In contrast to performance at these two schools, the gains of the experimental and control groups at the third school were miniscule, and for all practical purposes, equivalent. It was at this last school that all the declines in performance by experimental group classes from pretest to posttest occurred.

Creative writing instruction thus seems to have had an effect on figurative language comprehension, but the effect was not uniform across schools/writers, or classrooms. It is not at all clear to us which of the many differences among the writers and schools might account for these differences in impact. Certainly the writer whose classes declined in average ability to understand figurative language had a noticeably different approach to teaching. Compared with the other two writers, this writer used a somewhat more formal approach, placing more emphasis on the presentation of factual information (e.g., definitions of terms) and less on establishing a spirit of cameraderie. This writer also reported spending fewer class periods discussing figurative language, and tended to place more stress on forms of written language such as essays, and romance and mystery stories, which presumably involve less figurative language than does poetry. Any of these (or other possible) differences in teaching style could have affected student achievement. However, because of the exploratory nature of this study, it is not possible to determine whether the attained differences in instructional impact should be attributed to such differences in teaching style, differences between schools, or differences in student characteristics.

Turning now to the relation between the frequency of use of sounding and the comprehension of figurative language, one interpretation of the positive correlation between the two is that use of sounding itself causes better comprehension. An

alternative interpretation is that the correlation between the two variables is due to their common relationship to a third variable such as general language facility. The latter hypothesis was examined in a further analysis in which the effect of variations in reading ability (taken to be an approximate measure of general language ability) was partialed out of the correlation between reported use of sounding and figurative language comprehension.[1] In partial confirmation of the common-cause hypothesis, the effect of controlling for reading ability was to substantially reduce the correlation between sounding and figurative language comprehension. However, the correlation remained significantly greater than zero. The results thus offer some support for the hypothesis that both general language ability and use of sounding are causally related to comprehension of figurative language. These correlations are shown in the path analysis model presented in Figure 1.

Insert Figure 1 about here.

From Figure 1 it can be seen that the relationship between general language ability and figurative language comprehension is somewhat stronger than that between use of sounding and figurative language comprehension (0.36 versus 0.20), but that the latter causal path is not a trivial one. Sounding thus seems to have a direct and significant impact on figurative language comprehension. Some faith can be placed in this conclusion

because a similar pattern of results has been found in a more recent study that used a different population and different measures of sounding skill, general language ability, and figurative language comprehension (Taylor-DeLain, Pearson, & Anderson, 1983). It can also be seen from Figure 1 that while general language ability accounts for a significant portion of the variability among children in their use of sounding (the correlation between use of sounding and general language ability is 0.28), much of the variability in the use of sounding is not accounted for by this variable.

The fact that figurative language comprehension is affected by exposure to figurative language (in sounding), and that the preadolescent students in this study demonstrated an ability to understand metaphors and similes, is directly contrary to the predictions of at least the strong form of the "cognitive constraints" view of figurative language comprehension, which maintains that such comprehension does not emerge until early adolescence. The results are, on the other hand, quite compatible with the "language experience" view. It thus seems safe to conclude that the use of figurative language in sounding does tend to enhance Black school children's ability to understand the more literary uses of metaphor and simile encountered in the classroom. It might be objected that the size of the observed effects in this study provides only rather weak support for our conclusions. Even granting this objection, we feel that the results are sufficiently suggestive and that their

implications are sufficiently interesting to warrant consideration. Facility with figurative language affects the ability to understand both literary and instructional texts, and these are important goals of schooling.

The use of sounding presumably reflects the Black child's degree of participation in his/her peer culture. That this participation may have a positive effect on school-related tasks is encouraging. Perhaps ways can be found for schools to capitalize on the indigenous language patterns of Black children to enhance classroom performance. However, given the inappropriateness of engaging in sounding in formal (e.g., school) settings, the question of how this might be achieved is a complex and tricky one.

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Footnote

[1]The reading scores were collected from the school records, and thus reflect the administration of different standardized reading tests at different times. The reading scores of the children were transformed to z-scores before being submitted to the analyses. This transformation was done separately for each test, and thus partially controls for the unique effects of the different forms of reading test used.

Table 1

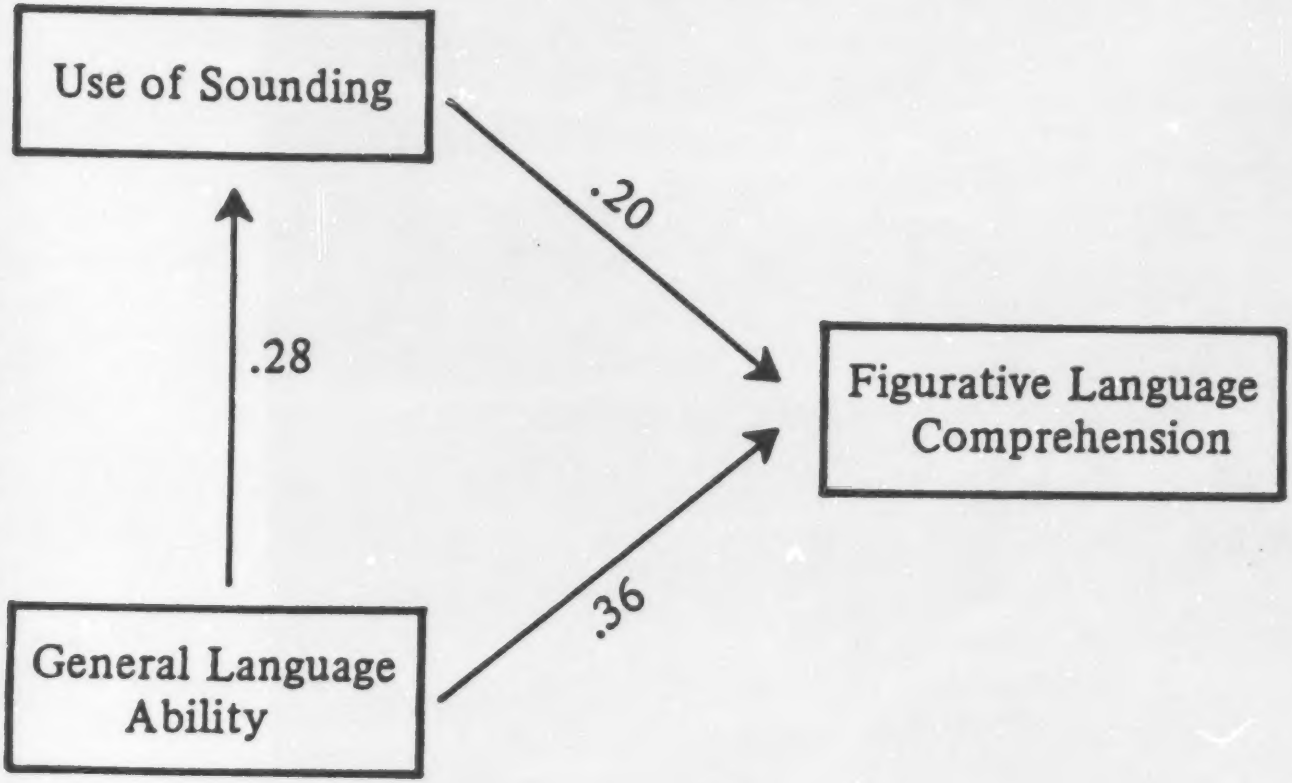
Mean Test Scores by Grade and Group

Grade	4	5	6	Mean
Experimental Group				
(N)	(96)	(29)	(67)	
Pretest	5.11 (2.21)	6.40 (2.51)	6.53 (2.52)	6.01
Posttest	6.64 (1.55)	7.00 (1.47)	6.65 (2.11)	6.76
Control Group				
(N)	(13)	(33)	(39)	
Pretest	3.53 (2.22)	6.20 (2.88)	6.90 (2.46)	5.54
Posttest	4.07 (2.47)	6.30 (1.79)	7.40 (1.59)	5.92

Note. The maximum score in each cell is 10. Figures in parentheses following the means refer to the standard deviations.

Figure Caption

Figure 1. Path analysis of the relationships among use of sounding, general language ability, and figurative language comprehension.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